

A TREB Primer on Seasonality and Seasonal Adjustment

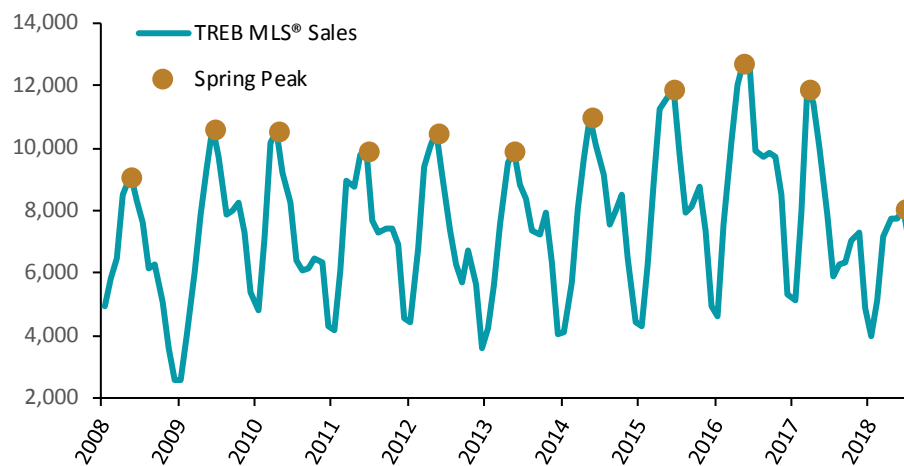
The residential real estate market is seasonal. In residential real estate circles, we often hear talk of “The Spring Market” and “The Fall Market”. This is because we have become accustomed to stronger sales in the spring (after slower winter months) and stronger sales in the fall (after slower summer months). This is essentially the definition of seasonality: a monthly (or quarterly) pattern that occurs in roughly the same manner from one year to the next.

What are the Pros and Cons of Seasonal Data?

Generally speaking, most monthly and quarterly real estate data has a seasonal pattern. This is certainly the case for sales, listings and average price data from TREB’s MLS® System. For the purposes of this discussion we focus on sales.

Figure 1 below shows monthly sales reported through TREB’s MLS® System since 2008. In line with the discussion above, we see that the spring months – April, May and June – are almost always the strongest, regardless of whether the year in question was considered strong or weak in terms demand for ownership housing.

Figure 1: Monthly TREB MLS® Sales



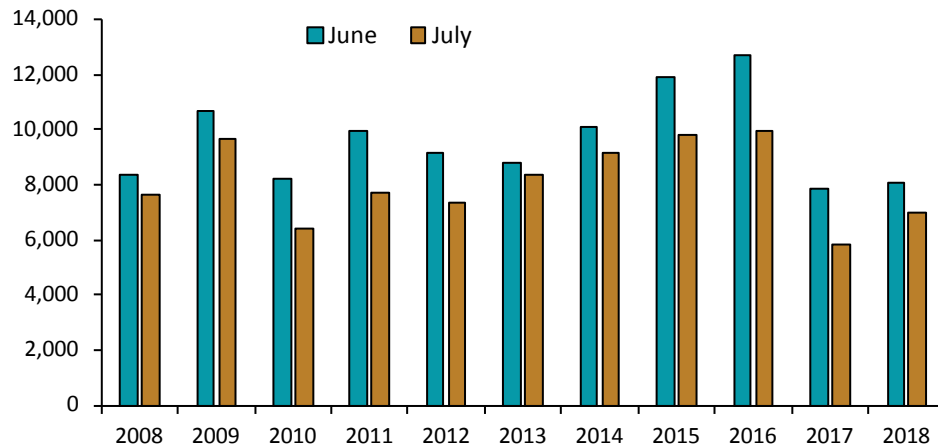
Source: Toronto Real Estate Board

While it’s good to understand the seasonal pattern in the housing market, this seasonality also presents a problem: how do we discuss changes in sales from one month (or quarter) to the next and determine how much of that change is due to the regular seasonal pattern versus a change in market conditions?

Taking the recent July 2018 TREB statistics as an example, the actual (i.e. non-seasonally adjusted) July sales figure was lower than that reported for June. The problem is that actual sales are *almost always* lower in July compared to June, and certainly have been for every year over the last decade (see Figure

2). So, simply saying that actual July sales were lower than actual June sales doesn't provide much insight on the market, except to confirm the fact that the market is seasonal.

Figure 2: June/July TREB MLS® Sales Comparison



Source: Toronto Real Estate Board

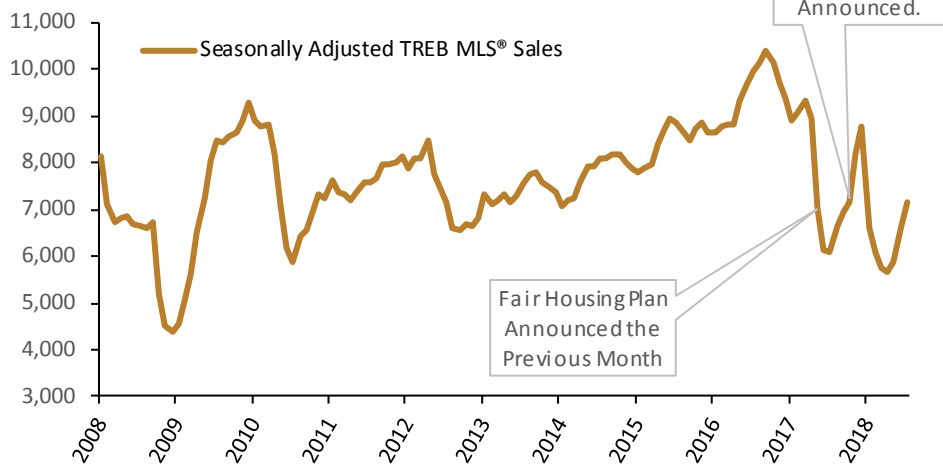
Seasonal Adjustment Allows For Removal of Regular Seasonal Pattern

This brings us to the concept of seasonal adjustment – a concept and process that has been used for decades by Statistics Canada and the Canada Mortgage and Housing Corporation to report key economic indicators, like the unemployment rate, gross domestic product and housing starts. The Canadian Real Estate Association has seasonally adjusted sales, listings and average price data since 1988.

Seasonal adjustment allows us to remove the regular seasonal pattern discussed above and illustrated in Figures 1 and 2. Once the seasonal pattern is removed, we can see the underlying trend, allowing us to have a more meaningful discussion on how the market has changed over shorter periods of time, like months or quarters.

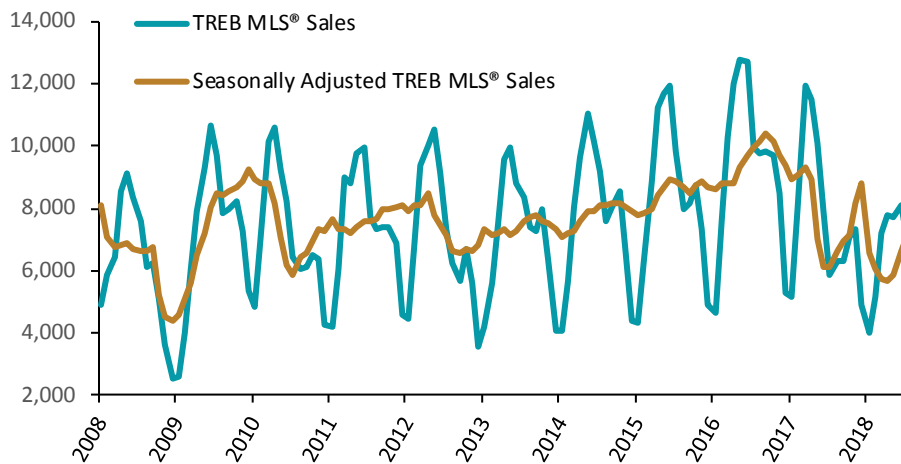
Figure 3 and Figure 4 show seasonally adjusted sales on their own and relative to actual sales respectively. Using the seasonally adjusted data, it is much easier to see actual turning points in the market and the underlying trend versus regular seasonal fluctuations. The timing of positive and negative changes in the market due to economic events (e.g. recessions) and public policy changes (e.g. Fair Housing Plan, OSFI Stress Test) would have been harder to pinpoint without seasonal adjustment.

Figure 3: Monthly Seasonally Adjusted TREB MLS® Sales



Source: Toronto Real Estate Board

Figure 4: Monthly Actual & Seasonally Adjusted TREB MLS® Sales



Source: Toronto Real Estate Board

Each month TREB reports monthly housing statistics in its Market Watch publication and related press release. Both documents contain raw (unadjusted) and seasonally adjusted data. Year-over-year and month over month comparisons are provided based on these data, allowing readers to look at the market from many different perspectives. There is no right or wrong way to compare results – it really depends on the question you are looking to answer.

The preliminary seasonally adjusted data referred to in the Market Watch and related press release are provided by CREA. CREA's seasonal adjustment technique was developed by Statistics Canada in cooperation with CREA and is updated on a periodic basis. For a more technical discussion of seasonal adjustment provided by Statistics Canada, click: <https://www.statcan.gc.ca/eng/dai/btd/sad-faq/sec1>